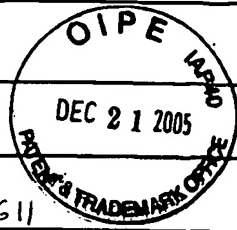


INFORMATION DISCLOSURE STATEMENT

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: December 21, 2005

ATTY DOCKET NO.
2003_1571SERIAL NO.
10/694,343APPLICANT
Mitsuaki OSHIMAFILING DATE
October 28, 2003GROUP
2634 2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	4,597,090	6-24-86	Forney, Jr.			
	AB	4,077,021	2-28-78	Csajka et al.			
	AC	2005/0084750	4-21-05	Wang et al.			
	AD	2005/0058633	3-17-05	Epstein et al.			
	AE	2005/0922922					
	AF	4,918,437	4-17-90	Jasinski et al.			
	AG	5,023,889	6-11-91	Divsalar et al.			
	AH	5,063,452	11-5-91	Higurashi			
	AI	5,124,852	6-23-92	Suwa et al.			
	AJ	5,136,380	8-4-92	Cho			
	AK	5,146,335	9-8-92	Kim et al.			
	AL	5,148,422	9-15-92	Sako et al.			
✓	AM	5,218,436	6-8-93	Sugiyama et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	NO
PP	AN	2627574	7-21-04	CN				
	AO	1529838	5-11-05	EP			abstract	
	AP	1499725	5-26-04	CN			only abstract	
	AQ	2004-159207	6-3-04	JP			corresponds to AP	
	AR	1528854	5-11-05	EP			only abstract	
	AS	52118	12-16-02	UA			only abstract	
✓	AT	1569334	1-26-05	CN				x

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

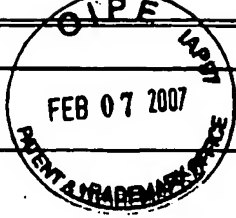
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9/26/07

Sheet 1 of 1		INFORMATION DISCLOSURE STATEMENT							
FORM PTO 1449 (modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary) Date Submitted to PTO: February 7, 2007				ATTY DOCKET NO. 2003_1571		SERIAL NO. 10/694,343			
				APPLICANT Mitsuaki OSHIMA		FILING DATE October 28, 2003			
U.S. PATENT DOCUMENTS									
EXAMINER INITIAL	AA	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE		
pp	AA	4,267,592	5-12-81	Craiglow	/	/			
	AB	4,601,045	7-15-86	Lubarsky					
	AC	4,912,706	3-27-90	Eisenberg et al.					
	AD	4,914,655	4-3-90	Johannes et al.					
	AE	5,018,198	5-21-91	Takahashi					
	AF	4,003,002	1-11-77	Snijders et al.					
✓	AG	4,053,713	10-11-77	Nitadori					
	AH								
	AI								
FOREIGN PATENT DOCUMENTS									
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO		
pp	AJ	3-13145	1-22-91	Japan	/	/	abstract		
	AK	4-322592	11-12-92	Japan			abstract		
	AL	63-253738	10-20-88	Japan			abstract		
	AM	62-502932	11-19-87	Japan			abstract		
✓	AN	58-107740	6-27-83	Japan			abstract		
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)									
	AO								
	AP								
	AQ								
EXAMINER				palm DATE CONSIDERED 9/25/07					

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INFORMATION DISCLOSURE STATEMENT

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: July 12, 2007

ATTY DOCKET NO.
2003_1571SERIAL NO.
10/694,343APPLICANT
Mitsuaki OSHIMAFILING DATE
October 28, 2003GROUP
2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	4,882,725	11-21-89	Noda et al.			
PP	AB	4,985,769	1-15-91	Yasumoto et al.			
PP	AC	5,276,507	1-4-94	Uwabata et al.			
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
PP	AJ	60-24753	2-7-85	Japan			partial & abstract
PP	AK	2-278940	11-15-90	Japan			partial & abstract
	AL						
	AM						
	AN						

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

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Sheet 1 of 7		FORM PTO 1449 (modified)		ATTY DOCKET NO. 2003_1571		SERIAL NO. NEW 10/694,343	
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE				APPLICANT Mitsuaki OSHIMA			
LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)				FILING DATE October 28, 2003		GROUP 2611	
Date Submitted to PTO: October 28, 2003							
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	AA	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	5,311,550	5-10-94	Fouche et al.			
	AB	4,630,287	12-16-86	Armstrong			
	AC	4,271,527	6-2-81	Armstrong			
	AD	5,050,188	9-17-91	Dirr			
	AE	5,398,073	3-14-95	Wei			
	AF	5,452,015	9-19-95	Hulyalkar			
	AG	5,565,932	10-15-96	Citta et al.			
	AH	5,481,412	1-2-96	Bannai et al.			
✓	AI	3,909,721	9-30-75	Bussgang et al.			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
PP	AJ	0365431	4-25-90	EP			
	AK	0485105	5-13-92	EP			X
	AL	92/14343	8-20-92	WO			X
	AM	89/08366	9-8-89	WO			X
✓	AN	0031193	7-1-81	EP			X
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)							
PP	AO	Shinji Matsumoto et al., "200 Mb/s 16 QAM Digital Radio-Relay System Operating in 4 and 5 GHz Bands", Japan Telecommunications Review, January 1982, vol. 24, no. 1, pages 65-73.					
PP	AP	M. Pecot et al., "Compatible Coding of Television Images, Part 2. Compatible System", Signal Processing Image Communication, October 2, 1990, no. 3, pages 259-268.					
PP	AQ	Mitsuaki Oshima, "Constellation-Code Division Multiplex for Digital HDTV", IEEE, 1992, pages 1086-1092.					
EXAMINER Phumyphu				DATE CONSIDERED 9/26/07			

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FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
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Date Submitted to PTO: October 28, 2003

ATTY DOCKET NO.
2003_1571SERIAL NO.
NEW 101694,343APPLICANT
Mitsuaki OSHIMAFILING DATE
October 28, 2003

GROUP 2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	4,227,152	10-7-80	Godard et al.			
	AB	4,525,846	6-25-85	Bremer et al.			
	AC	4,751,478	6-14-88	Yoshida			
	AD	4,891,806	1-2-90	Farias et al.			
	AE	4,903,125	2-20-90	Parker			
	AF	4,937,844	6-26-90	Kao			
	AG	5,164,963	11-17-92	Lawrence et al.			
	AH	5,555,275	9-1996	Oshima			
✓	AI	5,565,926	10-15-96	Bryan et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
PP	AJ	0311188	4-12-89	EP			X
	AK	0329158	8-23-89	EP			X
	AL	64-5135	1-10-89	JP			X
	AM	63-28145	2-5-88	JP			X
✓	AN	62-133842	6-17-87	JP			X

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

PP	AO	Tricia Hill et al., "A Performance Study of NL4 64-State QAM", IEEE Transactions on Communications, vol. COM-31, June 1983, no. 6, pages 821-826.
PP	AP	Hideki Ishio et al., "A Proposal of a Carrier Digital Transmission System Using Multi-Level APSK", pages 1-20, (UNKNOWN DATE).
PP	AQ	Shanmugam, "Digital and Analog Communication Systems" 1979, p. 272, (UNKNOWN DATE).

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9/26/07

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FORM PTO 1448 (modified)

U.S. DEPARTMENT OF COMMERCE
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October 28, 2003

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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
fp	AA	5,105,442	4-14-92	Wei			
	AB	4,048,572	9-13-77	Dogliotti et al.			
	AC	5,282,019	1-25-94	Basile et al.			
	AD	5,311,547	5-10-94	Wei			
	AE	5,267,021	11-30-93	Ramchandran et al.			
	AF	5,038,219	8-6-91	Yamashita et al.			
	AG	5,087,975	2-11-92	Citta et al.			
	AH	5,086,340	2-4-92	Citta et al.			
✓	AI	5,243,629	9-7-93	Wei			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
fp	AJ	53-137657	12-1-78	JP			X
	AK	0282298	9-14-88	Europe			X
	AL	0392538	10-17-90	Europe			X
	AM	0490552	6-17-92	Europe			X
✓	AN	0506400	9-30-92	Europe			X

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

pp	AO	Khaled Fazel et al., Combined multilevel coding and multiresolution modulation, February 8, 1993, Pages 1081-1085
pp	AP	P. Hoehner et al., Performance of an RCPC-Coded OFDM-based Digital Audio Broadcasting (DAB) System, IEEE Global Telecommunications Conference "Globecom '91", December 2-5, 1991, Vol. 1 of 3, Pages 2.1.1 - 2.1.7
pp	AQ	K. M. Uz et al., Combined multiresolution source coding and modulation for digital broadcast of HDTV*, 1992, Pages 283-292

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DATE CONSIDERED

9/26/07

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
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Mitsuaki OSHIMAFILING DATE
October 28, 2003

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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
pp	AA	5,142,353	8-25-92	Kageyama et al.			
	AB	5,197,061	3-23-93	Halbert-Lassalle et al.			
	AC	5,291,289	3-1-94	Hulyalkar et al.			
	AD	5,166,924	11-24-92	Moose			
	AE	4,940,954	7-10-90	Aubert et al.			
	AF	5,128,758	7-7-92	Azadegan et al.			
	AG	5,038,402	8-6-91	Robbins			
✓	AH	5,638,112	6-10-97	Bestler et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
pp	AI	0448492A1	9-25-91	Europe				X
	AJ	0485108A2	5-13-92	Europe			X	
	AK	0525641A2	2-3-93	Europe			X	
	AL	0540231A2	5-5-93	Europe			X	
✓	AM	0531046A2	3-10-93	Europe			X	

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

pp	AN	K. M. Uz et al., Multiresolution Source and Channel Coding for Digital Broadcast of HDTV, 1992, Pages 61-69.
	AO	Nambi Seshadri et al., Multi-Level Block Coded Modulations with Unequal Error Protection for the Rayleigh Fading Channel, Vol. 4, No. 3, May-June 1993, Pages 325-334.
✓	AP	William F. Schreiber, Spread-Spectrum Television Broadcasting, SMPTE Journal, August 1992, Pages 538-549.

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9/26/03

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FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
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Date Submitted to PTO: October 28, 2003

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10/694,343

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 28, 2003

GROUP 2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
pp	AA	5,063,445	11-5-91	Nishizawa et al.			
	AB	5,819,000	10-6-98	Oshima			
	AC	5,999,569	12-7-99	Oshima			
✓	AD	5,892,879	4-6-99	Oshima			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
pp	AE	7-99522	4-11-95	Japan			abstract
	AF	7-79415	3-20-95	Japan			abstract
	AG	5-75568	3-26-93	Japan			abstract
	AH	86-07223	12-4-86	WO			X
	AI	2 187 611	9-9-87	Great Britain			X
	AJ	85/04541	10-10-85	WO			X
	AK	04-196822	7-16-92	Japan			abstract
	AL	2-166979	6-27-90	Japan			abstract
	AM	64-74836	3-20-89	Japan			abstract
✓	AN	53-108215	9-20-78	Japan			abstract

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

pp	AO	Martin Vetterli et al., Multiresolution Coding Techniques for Digital Television: A Review, Multidimensional Systems and Signal Processing, Volume 3, May 1992, Pages 161-187.
	AP	Ezio Biglieri et al., Introduction to Trellis-Coded Modulation with Applications, April 6, 1992, Pages 173-207.
✓	AQ	English Language Abstract of European Patent No. 93 30-7575, (UNKNOWN DATE).

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FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
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Date Submitted to PTO: October 28, 2003

ATTY DOCKET NO.
2003_1571SERIAL NO.
NEW

10/ 694, 343

APPLICANT
Mitsuaki OSHIMAFILING DATE
October 28, 2003

GROUP

2611

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	4,636,876	1-13-87	Schwartz			
	AB	4,855,692	8-8-89	Kennard et al.			
	AC	4,873,701	10-10-89	Tretter			
	AD	4,958,360	9-18-90	Sari			
	AE	5,115,453	5-19-92	Calderbank et al.			
	AF	5,168,509	12-1-92	Nakamura et al.			
	AG	5,600,672	2-4-97	Oshima et al.			
	AH	6,049,651	4-11-00	Oshima			
✓	AI	6,256,357	7-3-01	Oshima			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
PP	AJ	0122805	10-24-84	EP			X
	AK	63-180280	7-25-88	JP			abstract
	AL	64-68144	3-14-89	Japan			abstract
	AM	5-218978	8-27-93	Japan			X
✓	AN	3-69295	3-25-91	Japan			X

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

PP	AO	Kazuhiko Nitadori, Synthesis of Multichannel Orthogonal VSB Signals by Quadrature Method, 1976 International Conference on Communications, June 14-16, 1976, Volume 1, Pages 3-25 - 3-29.
	AP	Thomas M. Cover, Broadcast Channels, IEEE Transactions on Information Theory, January 1972, Pages 2-14
	AQ	"Optimum Weighted PCM for Speech Signals", Sundberg, IEEE Transactions on Communications, Volume COM-26, No. 6, June 1978, Pages 872-881.

EXAMINER

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9/26/07

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U.S. DEPARTMENT OF COMMERCE
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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PP	AA	5,170,413	12-8-92	Hess et al.			
	AB	5,214,656	5-25-93	Chung et al.			
↓	AC	4,800,426	1-24-89	Glenn			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
PP	AD	57-39629	3-4-82	Japan			abstract
	AE	58-161547	9-26-83	Japan			abstract
	AF	63-180222	7-25-88	Japan			abstract
	AG	92/22162	12-10-92	WO			X
	AH	2-94814	4-5-90	Japan			abstract
	AI	61-70861	4-11-86	Japan			abstract
	AJ	2-218279	8-30-90	Japan			abstract
	AK	2,095,435	5-10-92	Canada			X
	AL	91/20137	12-26-91	WO			X
	AM	2-141049	5-30-90	Japan			X
	AN	2-195732	8-2-90	Japan			abstract
	AO	5-167633	7-2-93	Japan			abstract
	AP	2-260726	10-23-90	Japan			X
✓	AQ	58-161427	9-26-83	Japan			abstract

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

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EXAMINER	PPH	
DATE CONSIDERED	9/26/07	

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